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Lead Poisoning Prevention

Overview

Introduction

Lead exposure to children can result from multiple sources and can cause irreversible and life-long health effects. No safe blood lead level in children has been identified. Even low levels of lead in blood have been shown to affect IQ, ability to pay attention and academic achievement. (1)

Although the United States has made tremendous progress in lowering children's blood lead levels, some children are still exposed to high levels of lead. (1) It is estimated there are still 37 million housing units in the US that contain lead-based paint, 535,000 U.S. preschool children have blood lead levels above the current reference value of 5 mcg/dL, 23 million total IQ points are lost and 1 in 5 ADHD cases are attributed to lead exposure. (2)

The 2018 Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts (1) has four major goals: 1) Reduce Children's Exposure to Lead Sources, 2) Identify Lead-Exposed Children and Improve Their Health Outcomes, 3) Communicate More Effectively with Stakeholders and 4) Support and Conduct Critical Research to Inform Efforts to Reduce Lead Exposures and Related Health Risks. The plan specifically states "Explore ways to improve the utility of required blood testing of children enrolled in Medicaid and receiving services from the Supplemental Nutrition Program for Women, Infants, and Children (WIC)." (1) This policy describes WIC's role in minimizing or preventing childhood lead poisoning.

Lead poisoning prevention goals The goals of the Iowa WIC Program are to reduce children's exposure to lead and to advocate for all children under the age of six years to be tested for lead poisoning. Since 2000, children's blood lead levels greater than 5 micro grams per deciliter have decreased from 76 percent to 21 percent in 2015. Of the 2006 birth cohort, 98.9 percent received at least one blood test before their sixth birthday.

Lead poisoning prevention goals

The goals of the Iowa WIC Program are to reduce children's exposure to lead and to advocate for all children under the age of six years to be tested for lead poisoning. This work supports the goals of the Iowa Childhood Lead Poisoning Prevention Program to increase blood lead testing and follow up testing of children under the age of six, especially children 1 to 3 years in age and to link children diagnosed with exposure to the appropriate community resources needed to minimize impact.

Policy references

- MPSF: WC-93-14-P: WIC's Role in Screening for Childhood Lead Poisoning
- MPSF: WC-01-05-P: Blood Lead Screening

Other References

1. **2018 Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts**
https://www.hud.gov/sites/dfiles/HH/documents/fedactionplan_lead_final.pdf
2. **American Academy of Pediatrics; Lead Exposure and Lead Poisoning**
<https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/lead-exposure/Pages/default.aspx>

WIC's role

WIC agencies can help prevent lead poisoning and minimize negative outcomes by:

- Educating parents about how to avoid environmental lead exposure,
- Assessing history of lead testing and referring children for testing,
- Identifying community resources for blood lead tests and services,
- Collaborating with providers to ensure services are available,
- Assigning nutrition risk factors to lead affected children
- Encouraging parents/caretakers to be assertive when requesting a test, and
- Providing a nutritional assessment and dietary education to minimize deficiencies that can influence lead absorption.

Policy references

- MPSF: WC-93-14-P: WIC's Role in Screening for Childhood Lead Poisoning
- MPSF: WC-01-05-P: Blood Lead Screening

Other References

3. **2018 Federal Action Plan to Reduce Childhood Lead Exposures and Associated Health Impacts**
https://www.hud.gov/sites/dfiles/HH/documents/fedactionplan_lead_final.pdf
4. **American Academy of Pediatrics; Lead Exposure and Lead Poisoning**
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In this policy

This policy contains the following topics.

Topic	See Page
Promoting Lead Testing for All Children	3
Lead Poisoning Prevention Activities in WIC	5
Coordinating With Community Providers	7
Lead Testing Options for WIC Contractors	8

Promoting Lead Testing for All Children

Introduction

All Iowa children **have some risk** for lead poisoning regardless of socioeconomic status. WIC agencies have a role in assessing whether children have **had appropriate periodic testing to improve early diagnosis of lead exposure** and referring children that need to be tested.

Revised (Proposed) Lead Testing Chart

Child's Age	Blood Lead Testing Recommendation
0-less than 12 months of age	Assess* the child's need for early testing
12-35 months of age	Test every child at 1 and 2 years of age Check whether the child has had recommended lead testing at every contact Consider interim testing if there are elevated exposure risks* Provide confirmatory (venous) testing if a prior capillary test was abnormal Test children with past exposure as recommended based on prior test results
36 – 60 months of age	Check whether the child has had recommended lead testing at every contact Provide lead testing for children if testing was not done at 1 and 2 years of age or if test history is unknown Provide confirmatory (venous) testing if a prior capillary test was abnormal Test children with past exposure as recommended based on prior test results Assess* whether the child has a higher than average risk of exposure to lead and test as appropriate, at least annually.

*Assessment tool (revised risk questionnaire)

Children who may not be tested

Some groups of children are more likely to fall through the cracks and not be tested for lead poisoning. These children include those who:

- Have private insurance and receive their health services from a physician or medical provider who does not provide lead testing as recommended
- Are not covered by EPSDT, Medicaid, or private insurance.
- Have insurance that requires a high deductible or does not provide coverage for lead testing of non-symptomatic children
- Have guardians or parents that are not compliant with medical or public health recommendations for care
- Are recent immigrants, refugees or foreign adoptees; are in foster care; or are a member of a racial or ethnic population that is underserved.

Lead Poisoning Prevention Activities in WIC

Policy

WIC agencies must assess the history of lead testing for every infant and child enrolling in the WIC Program. If a child has not been tested, WIC personnel must make a referral to an appropriate community resource for testing and must document this referral. Referrals can be documented in the referral section of a participant's electronic record.

Referral guidelines

The table below provides guidelines for referrals for lead testing.

Step	Action						
1	Describe that a test for lead is different than the test for anemia (hemoglobin) and why blood lead testing is important for all children. Remind parents that children are most at risk between the ages of 12-36 months of age, and more than one test is needed to check for exposure to lead. Also, Iowa law requires children to have at least one blood lead test before kindergarten.						
2	<p>Assess if the child has been tested for lead (including the date and test results).</p> <table> <tr> <th>IF the child...</th><th>THEN...</th></tr> <tr> <td>Has been tested recently</td><td> <ul style="list-style-type: none"> • Discuss the test results, • Provide counseling as appropriate, • Refer for follow-up services as needed, and • Encourage the parent/caretaker to make sure that the child receives additional tests based on the child's risk status. </td></tr> <tr> <td>Has not been tested in the past year or has never been tested</td><td> <p>Determine the appropriate means for getting lead testing completed based on community resources:</p> <ul style="list-style-type: none"> • Refer to their private provider, or • Draw blood at the WIC clinic and request follow-up by the Child Health (Title V) Program, or • Refer to the local CLPPP (if available) for help making testing arrangements. </td></tr> </table>	IF the child...	THEN...	Has been tested recently	<ul style="list-style-type: none"> • Discuss the test results, • Provide counseling as appropriate, • Refer for follow-up services as needed, and • Encourage the parent/caretaker to make sure that the child receives additional tests based on the child's risk status. 	Has not been tested in the past year or has never been tested	<p>Determine the appropriate means for getting lead testing completed based on community resources:</p> <ul style="list-style-type: none"> • Refer to their private provider, or • Draw blood at the WIC clinic and request follow-up by the Child Health (Title V) Program, or • Refer to the local CLPPP (if available) for help making testing arrangements.
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3	Explore ways to reduce any barriers to obtaining lead testing.						
4	Provide information about reducing lead exposure from the environment including checking their home for possible lead hazards and explaining how good nutrition helps prevent lead absorption.						
5	Provide information about good hygiene practices and home cleaning that help reduce lead exposure in children.						

Lead Poisoning Prevention Activities in WIC, Continued

Preventing lead poisoning

WIC staff should provide key messages for preventing lead poisoning including the following:

- Providing meals and snacks high in iron and calcium decreases the amount of lead a child absorbs from objects, surfaces, dust or the environment.
- Asking whether the family uses traditional or ethnic spices, herbs, medicines or products, especially those from outside the U.S.
- Identifying possible lead hazards in the home or community.
- Cleaning the home regularly to remove dust and/or paint chips.
- Restricting children from playing in areas likely to be contaminated with lead (e.g., bare soil, near the windowsill).
- Providing information about ways to stop lead from work or hobbies from contaminating the home, car or the laundry if someone in the household has a job involving lead (most common: works in construction or manufacturing) or a hobby involving lead (most common: shoots firearms, makes ammunition).
- Explaining why it is important to keep children and pregnant women out of areas being renovated or remodeled, especially in older houses.

Follow-up for high lead levels

Children with a blood lead level ≥ 5 ug/dl need additional follow-up. All blood lead tests are required to be reported to the Iowa Department of Public Health (IDPH) by the testing laboratory or medical provider (if not reported by the testing lab). IDPH maintains a database of all reported Iowa blood lead tests.

Children with a blood lead level of 5-9 $\mu\text{g/dL}$ are recommended to have another lead test done within 1-3 months. Children with capillary blood lead levels ≥ 10 $\mu\text{g/dL}$ need a follow-up venous confirmatory test completed within 1-3 months.

Local childhood lead poisoning prevention programs (CLPPP) and the Iowa Department of Public Health (IDPH) are alerted when blood lead levels are ≥ 10 $\mu\text{g/dL}$. IDPH recommends children be referred for additional services (i.e., home nursing visit, nutrition evaluation, developmental assessment, or environmental inspection) when confirmed venous tests are ≥ 15 $\mu\text{g/dL}$.

When children are identified with blood-lead levels ≥ 20 $\mu\text{g/dL}$, the Iowa Department of Public Health Childhood Lead Poisoning Prevention Program (CLPPP) is alerted immediately. Follow-up and case management services will be coordinated by either the state or local CLPPP staff. Title V programs can also assist in care coordination for children with high blood lead levels.

Note: Local services and resources vary by location Refer to the IDPH CLPPP webpage for a map and list of local CLPPP programs or call 800-972-2026 to ask for more information:
<https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention>.

Nutrition counseling

Nutrition counseling for lead poisoned children is highly recommended and is reimbursable through EPSDT. WIC agencies that also have a Child Health Program (Title V) contract may bill EPSDT directly for the nutrition counseling. Other WIC agencies may seek reimbursement through a contract with the Child Health Programs (Title V) in their service area.

Note: EPSDT can be billed for nutrition counseling that goes beyond that provided by WIC. Nutrition counseling for lead poisoning falls into this category.

Coordinating with Community Providers

Introduction

The Iowa Department of Public Health has developed an infrastructure for addressing lead exposure. WIC agencies need to be aware of the community resources in their service area and establish good working relationships to facilitate lead testing and follow-up services for children in collaboration with the local or state CLPPP that has been assigned jurisdiction for the child.

Sources for lead testing

The table below lists potential sources for testing and other services related to lead poisoning prevention.

Source	Services available
Childhood Lead Poisoning Prevention Program (CLPPP) (Local contractor or IDPH)	<ul style="list-style-type: none">• Lead tests may be available from local CLPPP programs for children who are not covered by EPSDT or private insurance. Lead testing is a covered service by Medicaid.• Medical case management for children with a blood lead level of 15ug/dL or higher.• Environmental case management for children with two venous blood lead levels of 15-19 ug/dL or one venous test \geq 20 ug/dL• Education and outreach to medical providers, parents and landlords• Support for community-based coalitions• Coordination activities with health care providers to assure all children are tested <p><u>Note:</u> To find the CLPPP in your service area, call 1-800-972-2026 or download the CLPPP service area map at https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention.</p>

Child Health Programs funded through the Title V Block Grant	<ul style="list-style-type: none">• Lead tests may be conducted for children not covered by EPSDT• Community assessment and planning for delivery of essential services• Evaluation of a child's risk of lead exposure• Education about preventing lead poisoning or intervention after exposure• Service coordination or provision of services in conjunction with the local or state CLPPP that has jurisdiction following a child's exposure. <p><u>Note:</u> To find out if lead testing is available from Child Health in your service area call 1-800-383-3826.</p>
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Lead Testing Options for WIC Contractors

Introduction

Local WIC contractors may choose to offer lead testing at WIC clinics if time and resources are available. Drawing blood for lead testing at the same time as drawing blood for hemoglobin tests helps assure that children at risk for lead poisoning are identified and appropriate follow-up is provided. This section of policy describes considerations for WIC contractors who provide lead testing.

Funding

WIC funds may not be used for lead testing. WIC funds are not to be used for equipment, supplies, laboratory analysis, and staff time. Potential funding sources include:

- Empowerment funds,
- A local Childhood Lead Poisoning Prevention Program (CLPPP),
- *hawk-i*,
- a local HUD Lead Hazard Control Program and
- Other local funds.

Time considerations

Tasks that must be considered when considering the impact of lead testing on clinic operations and staff time include those listed in the table below:

Task	Comments
Preparation for the blood test	Hands must be washed with soap and water to remove any external lead contamination.
Time to collect the sample	When the blood sample is collected in conjunction with a finger stick to determine hemoglobin level, the additional time required is minimal but will add 1-3 minutes to the process (fill out form, collect the specimen, run the test or prepare the specimen for transfer to the testing lab)
Additional supplies	Lancets for a finger stick for a lead test need to be designed to provide a more robust blood flow than lancets commonly used for Hemocue (hemoglobin) testing. Specimens need to be collected in microtainers or another blood collection product as specified by the testing lab.
Documentation	<ul style="list-style-type: none"> Recording data/filling out the lab requisition for submitting to a lab. Weekly reporting to IDPH if using the Lead Care II analyzer
Notification of test results	<p>Notify families in a timely manner. This includes both normal and high lead levels.</p> <p>Scheduling of repeat testing for results of 5 - 9 ug/dL and venous confirmation retesting of test results \geq 10 ug/dL or higher.</p> <p>All blood lead levels \geq 20 ug/dL must be reported to the IDPH Lead Poisoning Prevention Program immediately at 1-800-972-2026 (voice) or 515-281-4529 (fax).</p>

Billing for the lead draw

The costs related to WIC staff doing the lead draw (specimen collection) may be reimbursed by Medicaid at \$3.00 per test based on the WIC agency's contract status:

- Medicaid can be billed directly through a Title V program in the same agency as the WIC Program.
- Medicaid may also be billed through a written agreement with a Title V program in the service area.

Note: Any reimbursement received for drawing blood for lead tests in WIC clinics must be returned to the WIC budget.

Equipment and supplies

Potential equipment and supply costs include the following:

1. Tests sent to the State Hygienic Lab, a local hospital or private lab or a national reference lab (labs must be certified by CLIA):
 - Lancets appropriate for collecting both a hemoglobin and capillary lead test
 - Capillary tubes or microtainers as specified by the testing lab
 - Lab requisition forms that collect all the required information. See Iowa Administration Code 641 Chapter 1 for reporting requirements.
 - Mailing materials and postage or courier service provided by the lab
2. LeadCare II® onsite testing (must be CLIA certified as a CLIA waived facility or running tests under the supervision of a CLIA certified laboratory).
 - LeadCare II® analyzer
 - Test kits and control kits for each test performed
 - -LeadCare II® software for reporting to IDPH (free from company upon request).

WIC Contractors wishing to collect specimens for blood lead testing in partnership with Title V programs, a local CLPPP or local public health need to establish processes and protocols with the partnering entity to arrange for specimen collection, submission to a laboratory, and payment to the laboratory for testing. The IDPH Lead Poisoning Prevention Program is available at 800-972-2026 for consultation or questions if needed.

WIC Contractors that partner with Title V programs, a local CLPPP or local public health can do lead testing on site using the LeadCare II® analyzer.

METHOD	PROCESS	PAYMENT
LeadCare II® Analyzer	<ul style="list-style-type: none"> Draw finger stick blood sample and analyze immediately onsite using this equipment. The agency doing the tests must report electronically to IDPH on a weekly basis. The equipment manufacturer provides software for this purpose. See Iowa Administration Code 641 Chapter 1 for reporting requirements. Follow-up must be arranged with the Title V program in the service area, the local CLPPP or the IDPH Lead Poisoning Prevention Program. 	<p>Local CLPPPs may use grant funds as reimbursement for testing non- Medicaid children.</p> <p>Tests of children with Medicaid must be billed directly to Medicaid by the testing lab.</p>

Follow-up

Follow-up should be provided by the local CLPPP or IDPH. If follow-up services for lead-poisoned children are not available in the WIC service area, call the Lead Poisoning Prevention Program hotline at 1-800-972-2026 for assistance or download the CLPPP service area map and contact list at <https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention>